R E P O R T R E S U M E S

ED 015 982 UD 004 724

WHAT TYPES OF COMPENSATORY EDUCATION PROGRAMS ARE EFFECTIVE.

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PUB DATE NOV 67

EDRS PRICE MF-$0.25 HC-$0.80 18P.

DESCRIPTORS- *DISADVANTAGED YOUTH, *COMPENSATORY EDUCATION PROGRAMS, *PROGRAM EFFECTIVENESS, *ACADEMIC ACHIEVEMENT, *TEACHER ATTITUDES, SLUM SCHOOLS, PROGRAM EVALUATION, EXPERIMENTAL PROGRAMS, INDIVIDUAL INSTRUCTION, TEACHING QUALITY, INSERVICE TEACHER EDUCATION, EXPENDITURES, EDUCATIONAL RESEARCH, MORE EFFECTIVE SCHOOLS, HIGHER HORIZONS, SAN FRANCISCO, CALIFORNIA, NEW YORK CITY

DATA ON THE LASTING EFFECTIVENESS OF COMPENSATORY EDUCATION PROGRAMS ARE AMBIGUOUS. EVALUATIONS HAVE BEEN HAMPERED BY A LACK OF LONGITUDINAL STUDIES AND CONTROLLED EXPERIMENTS AND BY THE IMPRECISION OF THE STANDARD MEASURES. EFFECTIVE PROGRAMS, THOSE WHICH PRODUCE INCREASES IN LEARNING, SHOULD FEATURE (1) CURRICULUM ADAPTATION TO THE INDIVIDUAL NEEDS AND ENVIRONMENTAL REALITIES OF POOR AND/OR NEGRO CHILDREN, (2) INSERVICE TRAINING IN ATTITUDES AND CURRICULUM FOR TEACHERS WHO HAVE NOT RAISED STUDENTS' ACADEMIC PERFORMANCE TO ADEQUATE LEVELS, (3) CONCERN FOR HEALTH, WELFARE, AND FOOD NEEDS, AND (4) PARENT INVOLVEMENT. ALL THESE FEATURES ARE EXPENSIVE BUT HIGH EXPENDITURES ALONE CAN NOT GUARANTEE PROGRAM EFFECTIVENESS. THE MORE EFFECTIVE SCHOOLS PROGRAM IN NEW YORK CITY HAS BEEN UNABLE TO STOP THE PROGRESSIVE RETARDATION OF DISADVANTAGED YOUTH BECAUSE IT HAS LACKED QUALIFIED TEACHERS AND INDIVIDUALIZED INNOVATIVE INSTRUCTION. REPORTS FROM VARIOUS STUDIES STRESS TEACHER ATTITUDES AND EXPECTANCY OF SUCCESS OR FAILURE AS IMPORTANT VARIABLES IN A DISADVANTAGED CHILD'S ACHIEVEMENT. OTHER STUDIES HAVE FOUND THAT EFFECTIVE INDIVIDUALIZED INSTRUCTION--INTENSIVE READING TEAMS, TUTORS, AND HOMEWORK HELPERS--PRODUCES SIGNIFICANT ACADEMIC GAINS. ONE STUDY HAS SHOWN SIGNIFICANT I.Q. GAINS WHEN INFANT TUTORING STARTED AT 14 MONTHS. THE VASTNESS OF TITLE I PROGRAMS OFFERS THE CHANCE TO EVALUATE SYSTEMATICALLY WHAT TYPES OF COMPENSATORY PROGRAMS ARE MOST EFFECTIVE IN IMPROVING THE ACHIEVEMENT OF THE DISADVANTAGED STUDENT. THIS PAPER WAS PREPARED FOR THE NATIONAL CONFERENCE ON EQUAL EDUCATIONAL OPPORTUNITY IN AMERICA'S CITIES, SPONSORED BY THE U.S. COMMISSION ON CIVIL RIGHTS, WASHINGTON, D.C., NOVEMBER 16-18, 1967. (NH)

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WHAT TYPES OF COMPENSATORY EDUCATION PROGRAMS ARE EFFECTIVE?

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for the
National Conference on Equal Educational Opportunity
in America's Cities
sponsored by the
U.S. Commission on Civil Rights, Washington, D.C.
November 16-18, 1967

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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My charge is to analyze and describe the types of compensatory education that are effective - given the racial and economic composition of schools as they exist now. In short, what types of evidence do we have as to the types of compensatory education programs that "work" in ghetto (racial or economic) schools. The answer to this question is relatively simple. We have very little hard data about compensatory education programs that result in lasting gains in pupil performance in an academic or achievement sense. I must hasten to add that the evidence is not so much positive or negative as ambiguous. Nevertheless, we can point to some shafts of light that emerge from the darkness. This paper will attempt to analyze why we find ourselves in such darkness and what some of those light rays may be.

UD 004 724

EVALUATION PROBLEMS

I think the basic cause of the lack of projects exhibiting clear benefits of compensatory education is that the evaluation of practically all educational program components or process variables has been largely inconclusive! We have had a plethora of studies of the impact on student achievement caused by decreasing class size, but as yet no general conclusions have emerged. The same can be said for the many studies of different techniques for teaching reading.[1] In sum, we should not expect more definitive (or positive) results from experimental education programs for pupils from disadvantaged backgrounds than for other students.

Moreover, evaluations of compensatory education programs have had their own special problems. There are very few projects which collected achievement data over several years and conducted longitudinal studies of the performance of particular pupils.[2] Evaluation of compensatory education has been hampered by the difficulties of setting up controlled experiments and isolating treatment effects. Random assignment of students to various compensatory projects has often been politically unfeasible (especially in Title I, which is not viewed as a research effort). Control or comparison groups often are decimated from year to year because of the extremely high turnover of students in slum schools. Given the many environmental factors (home, parental, peer group, community) that can affect disadvantaged students' performance, the problems of isolating compensatory education treatment effects are often insuperable.

If we define effective compensatory education programs to be those which increase rates of learning, we need to confront the standardized achievement test problem. Standardized tests - especially in the early grades - are not well adapted to the disadvantaged student or particularly sensitve to academic gains by the most deprived and lowest achieving students.[3] In many cases there has been a mis-match between the aims of compensatory education programs and the measuring instruments chosen. There is a lot of talk about increasing a student's "self image," but as yet there are no nationally accepted attitude measures that record "increases" in self image. The Higher Horizons Project in New York City is a good example of the poor results produced by behavioral ratings of teachers, another type of frequently used evaluative technique.

In sum, at the present time there is not a theory of learning of sufficient specificity to arrive at a consensus about what are the essential process components of an effective educational program (compensatory or otherwise). In recent years there have been many correlational studies of inputs and outcomes of education. Project Talent and the Coleman Report, Equality of Educational Opportunity, are two of the better known. For the most part, these studies have not arrived at clear conclusions about what school variables (as opposed to socio-economic) are important for education of the disadvantaged, the advantaged, or any other group.[4]

SOME LIGHT RAYS

With this overview of the state of the art in mind, I will now plunge into some hypotheses about what compensatory education programs are effective. I will define "effective" as increases in rates of learning, which I freely admit ignores other measures of effectiveness such as attitudes, attendance, better student-teacher interaction, etc. I think we have some evidence that a high per pupil expenditure increment ($500 and $750) very often is a necessary but not <u>sufficient</u> condition.

Title I of ESEA is designed for children who come from families with incomes of less than $2,000. In many of the Title I schools in the South and North, the Title I students are Negroes who have the scars of racial discrimination. The Coleman Report indicates quite clearly that the great majority of these children are behind national achievement norms and are getting farther behind in terms of grade equivalents the longer they stay in school. In short, <u>effective</u> programs must be comprehensive and, consequently, very costly. I mean by a comprehensive program one that: (1) adapts academic content to individual needs and environmental realities of poor children and Negro experience; (2) provides attitudes and curriculum training for many teachers who have not been able to bring academic performance to an adequate level; (3) concerns itself with food, welfare and health needs; (4) employs techniques for involvement and reinforcement of what the school is trying to do.

We have some examples of costly programs that have dramatically increased rates of learning. The PreSchool Project in Ypsilanti, Michigan has found a consistent jump in measured intellectual ability in each of four small groups of disadvantaged Negro children. The Ypsilanti project spends $1,500 per pupil in a program that includes home visits, psychologists, medical services, and a special "task oriented Curriculum." The achievement gains for the experimental group is significantly better than the control group from entrance in pre-school through grade two.[5]

Another example of a successful but expensive ($ per pupil) compensatory education program was the initial stages of The Higher Horizons program.[6] After 2.6 years in the program, 147 of 250 participants showed a gain of 4.3 years in reading achievement. Three hundred and twenty-nine children began the project in the seventh grade and continued through high school graduation.

The Civil Rights Commission study indicates that the achievement of Higher Horizons students became statistically insignificant when the cost per pupil was diluted to $50-60 increase per student (from about $250). As well as decreasing the per pupil expenditure in the later stages of Higher Horizons, (1) participation was not limited to students who showed academic promise, and (2) there was evidence that the additional expenditure supplanted rather than supplemented regular school expenditure.

Part of the ambiquity in the evaluation of compensatory education programs stems from the short time that Title I of ESEA has been operational. The only data we have this far are based on less than one year of Title I.

The isolated cases on which we have achievement data on comprehensive high expenditure programs are supported by the observations of the National Advisory Council on the Education of Disadvantaged Children (NACD). The Council employed teams of expert consultants who observed a national sample of Title I programs. The Council's view on the essential need for comprehensive and costly programs is summarized in the following quotation from their report on summer programs:

"Educators have stressed a need to look beyond conventional school practices for widening the child's total learning environment - involvement of parents as motivators, exposing children to community resources, bringing the world of school into realistic harmony with the world of work, and providing simple guarantees that a child is reasonably well-fed and clothed . . . to a child whose world is darkened by the mood of hope-bereft adults (parents and teachers alike), by ignorance of patterns of life outside an urban or rural slum, and the physical stresses of hunger, poor teeth, and faulty vision, it is hardly a welcome favor to pile an extra hour of remedial drill upon an unsuccessful school day. To this child, new opportunity must be offered in large variegated, carefully tied, packages, designed to change a life outlook, not merely a report card."[7]

TEACHER ATTITUDE

At the outset I stressed that a high cost per pupil does not guarantee an effective compensatory education program. This is the trap that some leading newspaper commentators are falling into - if every school district doubled the expenditure for poor Negro children, then achievement would spurt ahead dramatically. The More Effective Schools Program in New York (MES) provides evidence that more money alone is not the answer.

MES costs about $560 that is added to a New York City base of about $434 for instruction (excludes capital costs). This level of expenditure approaches or exceeds school costs in our wealthiest suburbs. MES reduced class size to an average of 20.5 students and the ratio of instructional personnel to pupils was 12.3 to 1. Other special MES services included heterogenous ability grouping, teacher materials, audio visual techniques and coordination, teacher specialists, special staff recruitment, teacher preparation periods, and the use of community relation experts. Although team teaching was used, the nongraded bloc was tried in only one of 21 MES schools.

With respect to student achievement in arithmetic the evaluation by the Center for Urban Education concluded:

"Overall, one would conclude that the MES program has not had any significiant or consistent effects on the children's performance in arithmetic problem solving and concepts."

With respect to reading the Center for Urban Education stated:

1. "Overall these data indicate three full years of MES did not have any effect in stopping the increasing retardation of children who began the program in grades two or three, but did have some initial effect, albeit not maintained, on the retardation of children who began the program in grade four."

The Center hypothesized that the data suggest a Hawthorne effect in the first year or two of MES, which is not maintained for the third year.

The classrom observers from the Center for Urban Education did not feel that instructional content and method in the MES schools differed significantly from that which prevailed in other New York schools. They found little of an innovative or experimental nature and little that was geared to reach the disadvantaged child.

Based on the evidence we now have, I suspect More Effective Schools may not be showing achievement gains because in many classrooms two ingredients are missing: (1) a high quality teacher; and (2) instruction that is adapted to individual needs of disadvantaged students. The More Effective Schools Program devotes only minor resources to inservice training of teachers in terms of attitudes and curriculum techniques. Yet several studies have isolated teacher quality as crucial.

A recent analysis of the Equality of Educational Opportunity Survey by Henry Dyer of ETS indicates the importance of teacher quality for academic achievement.[8] Dr. Dyer correlated various school and student

variables with the results of academic achievement tests administered to over 600,000 students by the Coleman study. He concluded:

"By contrast, the school characteristics that tend to be associated with differential levels of academic performance are often the ones that are likely to be hardest to change. They include staff attributes like teachers' verbal facility, the quality of the college at which teachers were trained, their willingness to teach children from the slums, and their attitudes toward racial integration. They include student body attributes such as the socio-economic level of the school population, the general level of verbal ability, the proportion of white children in the school, and the proportion who are headed for college."

An especially interesting study in San Francisco, California, demonstrates the importance of teacher attitude toward students. Robert Rosenthal, Professor of Social Psychology at Harvard University, designed an experiment for an elementary school in South San Francisco to show that students believed by their teachers to be academic "spurters" would make dramatic academic gains in their school work.

All children in the 18 classrooms in the school were administered the Harvard Test of Inflected Acquisition in the fall of 1964. Teachers were told not to discuss the test findings with the students or their parents.

Twenty percent of the children were designated as academic spurters and their names were given to their respective teachers. The spurters' intellectual potential was supposedly established by their test score, but their names were picked from a table of random numbers. The difference between the spurters (experimental group) and the undesignated (control group) children was purely in the minds of the teachers.

Eight months later 17 of the 18 classes were retested. In 15 of the 17 classrooms, children of the experimental group gained more IQ points than did control group children. First and second graders gained the most. In the first grade the spurters gained over 15 more IQ points than did the control group and in the second grade, the spurters gained 10 IQ points more than the control group. Of the first and second graders listed 2½ times as many spurters gained 20 or more IQ points than did control group children. Besides showing greater intellectual gain of children who were designated spurters, Rosenthal's study also points out that teacher's overall perception of children may be prejudiced by his expectancy of the child.

Teachers were asked to describe the pupils at the end of the year. Despite the fact that many of the control group children gained intellectually, they were not rated favorably by their teachers. The children for whom intellectual growth was expected were described as curious, adjusted, and affectionate, etc., while the control group children who gained in IQ were regarded as less interesting, less well adjusted, and less affectionate.

Rosenthal also analyzed the children's test results with their placement into ability tracks. He found that children of low ability track who had a low predicted intellectual growth rate (control group) were not rated favorable by their teachers.

When these slow track children were in the control group so that no intellectual gains were expected of them, they were rated more unfavorably by their teachers if they did show gains in IQ. The greater their IQ gains, the more unfavorably were they rated, both as to mental health and as to intellectual vitality. Even when the slow track children were in the experimental group, so that IQ gains were expected of them, they were not rated as favorably relative to their control group peers as were the children of the high or medium track, despite the fact that they gained as much in IQ relative to the control group children as did the experimental group children of the high group. It may be difficult for a slow track child, even one whose IQ is rising, to be seen by his teacher as a well-adjusted child, and as a potentially successful child intellectually.

Rosenthal tested the hypothesis that teachers were spending more time with the spurters than with the control group children and that as gains of the spurters increased the less would be the gains of the control group. This robbing Peter hypothesis proved negative. He found that the greater the gains of spurters in a classroom, the greater the gain of the control group in the classroom.

Teachers were also questioned about the time spent with children of experimental and control groups. Estimates showed a tendency, not statistically significant, for teachers to spend less time with spurters than with control group children.

Rosenthal concluded that it was probably the type of interaction which took place between teachers and their pupils which led to the differences in experimental and control groups rates of intellectual development. What teachers said and how they said it to their pupils, combined with their teaching behavior may have helped the children learn.

There are two important implications from Rosenthals' experiments - First - that if teacher training institutions inculcate prospective teachers the possibility of anticipating pupil performance, the children may, in fact, fulfill the prophecy; secondly, that if all new educational practices are tested with expectancy control groups it would be possible to see if it is the practice itself or the expectancy of the teacher which produces results. The relatively inexpensive manipulation of teachers' expectancies could then be compared to the cost of compensatory education projects.

This study reconfirms the conclusions that Dr. Kenneth Clark gleaned from his survey of schools in Harlem. Dr. Clark used a questionnaire with 120 personnel in Harlem schools (teachers and principals) that was designed to elicit pupil expectation. Questions included number of students who were thought to have potential to finish high school, go

to college, etc.. Dr. Clark also interviewed many school professionals. He found that generally student expectations were very low, especially those of principals. In these Harlem schools students were usually three to four grades below grade level by 12th grade.

Clark attributes the initial success of Higher Horizons to a very large increase in teachers confidence in pupils' ability to learn. Prior to the projects teachers felt they were helpless and students incorrigible. In its initial phases Clark points out the Higher Horizon project managed to redefine the role of student and teacher and insisted on teacher's overt recognition of the positive image of the pupil.

The importance of teacher attitude was reconfirmed by the observations of the NACD consultants who viewed firsthand a national sample of Title I compensatory education programs.

"Above all the factors in improving education that were named in the reports, one was identified by observer after observer as a necessary ingredient in substantial change - and the greatest hurdle standing in the way of change. This is the quality of the relationship between the teacher and the child . . . the differences between success and failure in projects they visited, the observers said again and again, pivoted on the subtle aspects of mutual understanding, commonness of purpose, and warm human contact between teacher and pupil, which they described by the word "rapport."

Since the quality and attitude of teachers are crucial to the success of disadvantaged child, we must face the fact that most school systems and universities admit their inability to mount programs that

significantly change behavior of experienced teachers. How do we make high quality teachers out of existing practitioners? There is no magic formula or curriculum that is widely known. The same can be said for the difficult job of changing teacher attitudes and expectations of the poor. Much time and motion go into in-service training but little payoff is evident. Those who say compensatory education is "Easier than integration" must not overlook the difficulty of upgrading existing teachers whose initial preparation did not equip them for teaching in ghettos. Could the lack of large achievement gains in More Effective Schools be caused by teachers who are teaching 20 kids using the same methods, attitudes and contents as they used with 40 children?

INDIVIDUALIZED INSTRUCTION

This brings me to the achievement gains of effective individualization of instruction. Hartford, Connecticut, currently is operating three intensive reading instructional teams (IRIT). The teams carry out the project as follows: extensive use of motivational and multi-media techniques; the use of pupil-teacher conferences to motivate, correct, and individualize each child's reading program, and close contact with the parents to continually assess the effects of the IRIT on the child in his home. The teams provided 469 fourth, fifth, and sixth-grade students with intensive small-group reading instruction that was individualized for each student daily. The student was returned to his regular class after one hour of IRIT.

Results from pre-post testing with the California Reading Achievement Test showed statistically significant gains in vocabulary, comprehension, and total reading achievement compared to control groups. Follow-up study reveals that the gains are still being maintained, although not necessarily improved on.[11]

A very interesting example of an effective individualized instruction program is the Homework Helper program in New York City. In 1963 Homework Helper established after-school tutoring of pupils in the fourth, fifth, and sixth grades by senior high school students. The tutors were mostly girls.

On the average, the tutored pupils, who received four hours of tutoring a week, showed a grade level gain of six months, and the controls gained only 3.5 months across the five months of research.[12]

But the improvements in the reading scores of the tutors were even more striking. In the six months of the research, the mean scores of the control group improved 1.7 grade level while those of the tutors improved 3.4 grade levels; the student tutors were particularly successful with young pupils most severely retarded in reading. The researchers suggest that this is due primarliy to the increased individual attention without the sense of ridicule of condescension that severely backward readers have often come to expect from many teachers.

There are some studies that indicate individualized tutoring is most effective if it concentrates on ages one to three. A National Institute of Health Project in Washington, D.C., tutors children in their homes starting at 14 months with four one hour sessions per week. At 27 months the tutored infants (total of 30) had IQ's significantly higher than the control children. Preliminary analyses show even great differences in verbal skills. Such experiments indicate the need for remediation might be headed off before the child reaches school age.

CONCLUSION

Sharp and incisive questioning of effectiveness of compensatory education in racially and/or economically isolated schools is increasing among lay, professional, and government people. As yet there are not enough carefully designed evaluation studies to answer the effectiveness question except in an ambiguous fashion. The existing studies can be viewed only as the barest beginning. Methodological problems still confound evaluators searching for conclusive learning results. Moreover, there are not many widespread comprehensive compensatory education programs to evaluate. As the NACD observed:

> "We have not yet learned to group projects into total programs and to spread such program throughout whole school areas where disadvantaged children are concentrated."

We have some clues that parent involvement is a significant factor in raising pupil achievement. Yet, here again we have only scant evidence that supports this assertion, and almost no research on what techniques of parent involvement are most effective.

The few studies we have seem to point to teacher quality and attitude, individualized instruction, and high expenditure comprehensive programs as crucial. None of these three attributes can be achieved for 11 million disadvantaged children without great increases in expenditure and massive retraining programs using largely undiscovered training techniques.

Title I of ESEA has stimulated a vast number of new programs for disadvantaged children. Our task needs to be systematic evaluation of these efforts in order to find out what works. Title I has just entered its third year which provides us the opportunity to conduct evaluation over several years. We must take advantage of this opportunity.

FOOTNOTES

1. See Harold J. Clark, Cost and Quality in Public Education, Syracuse University Press, 1963.

2. HEW has contracted with GE - TEMPO for such studies in 13 cities. Results are expected this spring, 1968.

3. See article the Journal of Social Issues, "Guidelines for testing Minority children," April, 1964.

4. See paper by Henry S. Dyer, "School Factors and Equal Opportunity," American Psychological Association Symposium, September 3, 1966.

5. David Weiksart, "Preliminary Results from a Longitudinal Study of Disadvantaged Children," 1967, Table 2.

6. See U.S. Commission on Civil Rights. Racial Isolation In the Public Schools, P. 123-5, 1966.

7. See report of the National Advisory Council on the Education of Disadvantaged Children, Summer Education for Children of Poverty, pp 8-9.

8. Henry S. Dyer, "School Action and Equal Opportunity," America Psychological Association, September 3, 1967.

9. See Dr. Kenneth Clark's recent book Dark Ghetto. Clark also points out St. Louis Bannaker project's initial success rested on changed attitude of teachers and principals. There were no drastic changes in curriculum or instructional technique yet achievement rose significantly, p.143-144.

10. This lack of know-how to implement effective in-service teacher training programs was stressed repeatedly in the schools NACD observers visited.

11. Source Robert J. Nearine, Coordinator of Evaluation, Hartford Board of Education. See also the results of the PLATS language arts program in Dade Co., Fla. (Source Mel Tennis, Superintendent of Education Research) Each class was divided into special needs groups with a master teacher for oral language development, reading instruction, and composition. PLATS children realized "small" positive gains but control groups decreased.

12. Source Studies in Tutoring, 1966, Robert Cloward, p. 59.

13. Source Earl S. Shaefer, National Institute of Health, Bethesda, Maryland.